

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

After entry of the foregoing amendments, Claims 1-18 are pending in the present application. Claims 1-5, 15 and 17 are amended.

In the outstanding Office Action, Claims 1-3 and 10-18 were rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 5,917,865 to Kopmeiners et al. (herein "Kopmeiners") in view of U.S. Patent Publication No. 2001/0048727 to Schmutz et al. (herein "Schmutz"); Claim 4 was rejected under 35 U.S.C. 103(a) as unpatentable over Kopmeiners and Schmutz in view of U.S. Publication No. 2003/0027610 to Loke; Claim 5 was rejected under 35 U.S.C. 103(a) as unpatentable over Kopmeiners, Loke and Schmutz in view of U.S. Patent No. 5,805,643 to Seki et al. (hereinafter "Seki"); and Claims 6-9 were rejected under 35 U.S.C. 103(a) as unpatentable over Kopmeiners and Schmutz in view of U.S. Patent No. 5,812,025 to Shimazaki.

Applicant and Applicant's representatives thank Examiner Hoque and Supervisory Patent Examiner Chin for the courtesy of a personal interview with Applicant's representatives on November 15, 2005. During the interview the differences between Claims 1-5, 15 and 17 and the applied art were discussed. Further, clarifying claim amendments, similar to those presented herewith, were also discussed. The Examiners indicated they would further review the amended claims in view of a filed response. Arguments presented during the interview are reiterated below.

Regarding the rejection of Claims 1-3 and 10-18 under 35 U.S.C. 103(a) as unpatentable over Kopmeiners in view of Schmutz, Claims 1-3 and 10-18 are amended to more clearly recite that for each frame a single operating mode of a plurality of operating modes characterized by different gain updating periods is selected based on either a one-

frame average value or a one-slot average value of the output from the analog-to-digital converter. Support for this Amendment can be found in the Specification as originally filed, for example at Fig. 2 and corresponding disclosure. No new matter is added.

Briefly recapitulating, amended independent Claim 1 is directed to an automatic gain controller including, *inter alia*, an operating mode selection unit configured ***to select for each frame a single operating mode*** of a plurality of operating modes characterized by different gain updating periods ***based on either a one frame average value or a slot average value*** of the output from an analog-to-digital converter. Independent Claims 2-3, 15 and 17 are amended similar to Claim 1.

In a non-limiting example, Figures 2 shows that either a high operating mode or a normal operating mode is selected for each frame.

Turning to the applied art, Kopmeiners describes a digital automatic gain control that employs a two stage process to determine gain adjustment. As depicted in Figures 2A and 2B, the process begins in a search mode to determine if the signal is within its desired range (205 and 210) and then proceeds to course and fine adjustment.<sup>1</sup> During coarse and fine adjustment, a comparison is made to a target peak level to calculate the gain adjustment (220, 225, 245, and 255).<sup>2</sup> While Kopmeiners requires consecutive stages to determine the gain adjustment, it does not teach or suggest selecting for each frame one of a plurality of modes as required by Claim 1. Moreover, Kopmeiners does not teach or suggest a one frame average or a one slot average.

Schmutz describes an automatic gain control that includes steps of measuring and storing an amplitude of a signal for a given time slot. As depicted in Figure 4, the amplitude of a signal is measured (152) and stored for a predetermined number of times (158). These measurements are used to predict the gain adjustment factor (166) for the given time slot

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<sup>1</sup> Kopmeiner, Column 6, lines 2-8 and 24-29.

<sup>2</sup> Kopmeiner, Figures 2A and 2B.

(168).<sup>3</sup> While Schmutz measures and stores amplitude of a signal for a given time slot, it does not teach or suggest a one frame average value and a one slot average value. Moreover, Schmutz does not teach or suggest selecting for each frame one mode of operation characterized by different gain updating periods.

Therefore, as discussed during the interview, Kopmeiners in view of Schmutz does not teach or suggest an operating mode selection unit configured *to select for each frame a single operating mode* of a plurality of operating modes characterized by different gain updated periods *based on either a one frame average value or a slot average value* of the output from an analog digital converter, as recited in independent Claims 1-3, 15 and 17 and the claims depending therefrom.

Accordingly, Applicant respectfully submits that the rejection of independent Claims 1-3, 15 and 17 and the claims depending therefrom be withdrawn.

Regarding the remaining rejections, each of Loke, Seki and Shimazaki have been considered but none cures the above-noted deficiency of Kopmeiners in view of Schmutz. Accordingly, Applicant respectfully submits that the rejections of independent Claim 5 and the claims depending therefrom be withdrawn.

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<sup>3</sup> Schmutz, ¶ 0029.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



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Eckhard H. Kuesters  
Attorney of Record  
Registration No. 28,870

Customer Number

**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 06/04)

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